

## AN IMPACT OF EXCHANGE RATE ON INDIAN STOCK

### EXCHANGES: BSE & NSE

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#### ABSTRACT

*This paper empathizes the relationship between Indian stock exchanges (BSE &NSE) with Exchange Rate (USD). It measures the changes in the exchange rate on Indian stock exchanges. Statistical test like Correlation, Regression and Mean are being used to measure the impact of exchange rate on Indian stock exchanges. This study has been taken for 10 years (January 2008 to December 2017). The monthly index is being converted into yearly index by using the tool mean. From the data analysis we found that there is a significant relation between Exchange rate &Nifty and significant relation between Exchange rate & Sensex.*

**KEYWORDS:** Indian Stock Exchanges, Sensex, BSE &NSE

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#### INTRODUCTION

The stock market is the place where the shares of the public companies are issued and traded through exchanges or over the counter exchanges. One of the free market economy's important component is Share market. Only listed companies are being traded in share market. Stock exchange consist of bonds, securities and stocks. Some of the securities traded in stock markets are stock issued by listed companies, unit trusts, pooled investment products, derivations bonds. Trade can be done only by the members. The leading stock exchanges are BSE & NSE. Apart from these there are 22 stock exchanges in India.

#### LITERATURE REVIEW

This paper was published by Divyang Patel and NikithaKagalwala (2013). This paper examines the relationship between Foreign Exchange rate and Indian stock market. The tools used are correlation, regression and Anova. The period of study is from 2005 to 2012.

"Influence of Exchange rate on BSE SENSEX & NSE NIFTY" conducted by ArunaPolisetty, Dr. D. Prasanna Kumar and Mrs. JikkuSusan Kurian (2016). This paper analysis the impact of Exchange rate with NSE & BSE.

Bhanu Pant & Dr.T.R.Bishnoi (2002) examine the mean of reverting behavior of stock indices and over reaction of stock prices in unitary direction of India.

SameesYadow (2017) the study says the risk is not measurable. But on the basis of historic volatility the risk is calculated.

### **Statement of the Problem**

In the modern era, the trading in stock exchange has been increased. In this study an attempt has been made to analysis the performance of National stock exchange and Bombay stock exchange in India by comparing with Exchange Rate (USD). At the end of the analysis you will get to know the relationship between Nifty & Exchange rate and SENSEX & Exchange rate.

### **Objectives**

The following are the objectives of the study:

- To identify the relationship between National Stock Exchange (NSE) and BombayStock Exchange (BSE) with Exchange rate.
- To find the relationship between National stock exchange and Bombay stock exchange the with Exchange rate by using Correlation and Regression.

### **Tools and Technique**

The parameters which are used in the project are as follows:

- Correlation
- Regression
- Mean

### **Data Collection**

The data set on stock market for a period of ten years from 2008 to 2017 is obtained as the secondary data, which is being collected from the websites of Indian stock market, newspapers, articles and research papers. And also the information is being taken from money market website, publications from ministry of commerce. Monthly value of different index are valued and averaged to get the value of the whole year.

### **Scope of the Study**

This study can help the investors to understand the impact of Foreign Exchange rate on Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

### **Time Period of Study**

This study is based on the data which is being collected for the period of ten years (2008 to 2017).

### **Limitation of Study**

- This study is based on the secondary data.
- This study is limited to a period of ten years from 2008 to 2017.

- The topic has broad nature which is a limitation because we stick to the certain things in the comparison like correlation and regression.

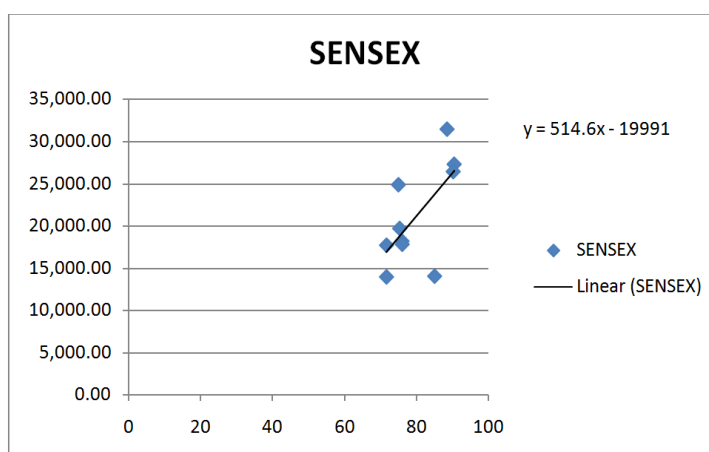
### Comparison of Sensex and Exchange Rate

The relationship between Sensex and Exchange rate has been determined by using correlation and regressing. From the average value given in the table below.

**Table 1: Past 10 Years Value of SENSEX and Exchange Rate**

Year	Sensex Value	Exchange Rate Value
2008	14028.76	85.07
2009	13941.48	71.66
2010	18207.56	75.98
2011	17724.38	71.66
2012	17834.85	76.03
2013	19727.08	75.32
2014	24941.00	74.98
2015	27382.92	90.50
2016	26505.69	90.23
2017	31481.64	88.52

### Regression



**Graph 1: Regression of Sensex and Exchange Rate**

From the regression analysis of Sensex and Exchange rate we found that the changes in dependent variable (Sensex) depends on the changes in the independent variable (Exchange rate).

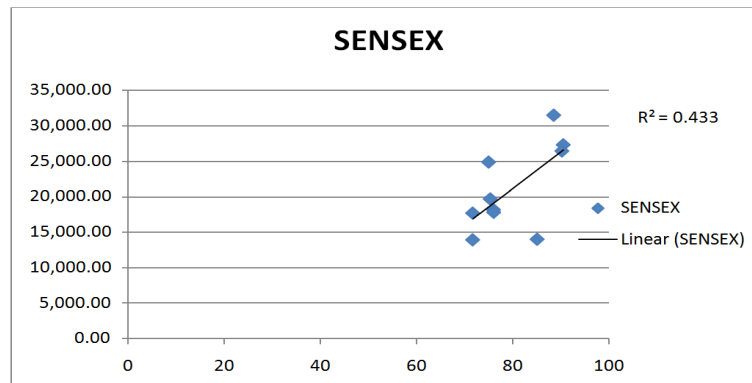
$$Y = 514.61x - 19991.$$

$$Y = \text{sensex.}$$

$$X = \text{exchange rate.}$$

## Correlation

Value of R	Strength of Relationship
-1.0 to -0.5 or 1.0 to 0.5	Strong
-0.5 to -0.3 or 0.3 to 0.5	Moderate
-0.3 to -0.1 or 0.1 to 0.3	Weak
-0.1 to 0.1	None or very weak



**Graph 2: Correlation of Sensex and Exchange Rate**

As the independent variable and dependent variable are strongly related in the increasing manner, so it represents the positive regression between sensdex and exchange rate. The value of  $R = 0.658$  which falls between 0.5 to 1.0, there exist a strong relationship.

This comes under alternative hypothesis because the relationship between the exchange rate and nifty is stronger.

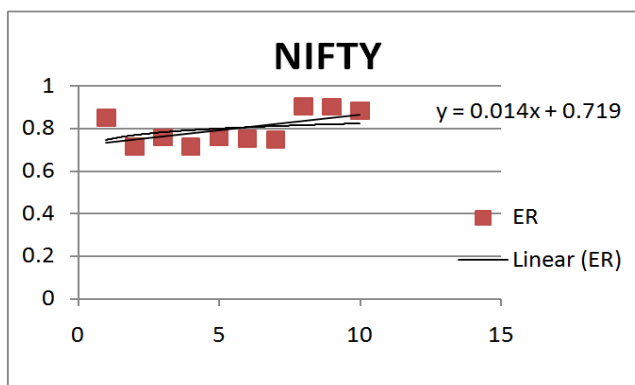
## Comparison of Nifty and Exchange Rate

The relationship between Nifty and Exchange rate has been determined by using correlation and regressing. From the average value given in the table below.

**Table 2: Past 10 Years Value of Nifty and Exchange Rate**

Year	Nifty Value	Exchange Rate Value
2008	4198.8	85.07
2009	4183.4	71.66
2010	5462.0	75.98
2011	5319.9	71.66
2012	5410.5	76.03
2013	5908.0	75.32
2014	7453.5	74.98
2015	8298.8	90.50
2016	8138.2	90.23
2017	9661.4	88.52

## Regression



**Graph 3: Regression of Nifty and Exchange Rate**

From the regression analysis of Nifty and Exchange rate we found that the changes in the dependent variable (Nifty) depends on the changes in the independent variable (Exchange rate).

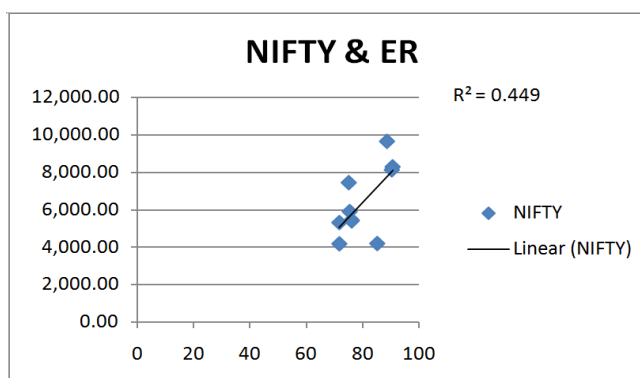
$$Y = 0.014x - 0.719$$

Y = Nifty

X = Exchange rate.

## Correlation

Value of R	Strength of Relationship
-1.0 to -0.5 or 1.0 to 0.5	Strong
-0.5 to -0.3 or 0.3 to 0.5	Moderate
-0.3 to -0.1 or 0.1 to 0.3	Weak



**Graph 4: Correlation of Nifty and Exchange Rate**

As the independent variable and dependent variable are strongly related in the increasing manner, so it represents the positive regression between Nifty and Exchange rate. The value of  $R = 0.6701$  which falls between 0.5 to 1.0, there exist a strong relationship.

This comes under alternative hypothesis because the relationship between the exchange rate and nifty is stronger.

## CONCLUSIONS

The study was undertaken to analysis the relationship between the Exchange rate and Indian Stock Market like NSE and BSE for the time period of 10 years from 2008 to 2017. The study shows that there is a positive relationship between Exchange rate and Indian stock market. That is the change in the Exchange rate has strong impact on the change in the rate of Indian Stock market. For determining the impact of exchange rate on Indian stock market, We applied monthly data of both Exchange rate and Indian Stock market and got the average as the annual value. Firstly correlation test is applied which indicates that there impact of exchange rate(USD) on Indian stock market (NIFTY and SENSEX) was strong. Secondly, regression test was also applied which indicates the impact of exchange rate on Indian stock market. The change in the share prices has the potential to cause widespread economic disruption. The change in price of share market also affects the individuals in their business investments and so on.

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